

Work Order ID 65594

Thursday, January 20, 2011 10:22:46 AM



Page 1

DRAW GREEN

Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Item Name: Replacement Skidtube

Stop



Start Date: 1/21/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 2/11/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: *MYF* Date: *11-01-20* Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D2580	Rev.D DEO-D1

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy D205-634 bluefile & type labels per PPP D205-634-041 CHG003

N/A

110

0.00



BENDING MACHINE - SKIDTUBES

CNC Bend I

Memo

0.00

CNC Delta 100 Bender

1-Bend as per program D2580.C on CNC Bender and Folio 16

2-Cut tubes as per Dwg. D2580

3- scribe batch# in aft end of tube

1 0 BEU/03/04

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Page 2

Accept

Setup Start

Stop

**Cust Item ID:**[illegible]

Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Run Start

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Operation	Description
1	...
2	...
3	...
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100	...

Set Up/ Run Hours

Tool ID

Tool #

**Plan
Code**

**Accept
Qty**

Reject
QtyReject
Number

**Insp.
Stamp**

120

0.00

Skidtubes -

Memo

0.00

Skidtubes

1- Deburr ends and remove bending marks

2- Prepare tube for swaging as per QSI 002

130

QC5- Inspect part completeness to step on W/O

0.00

QC

Memo

0.00

Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Work Order ID 65594

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Item ID: D205-634-041

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Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 1/21/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 2/11/2011 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: Date: Tooling: Date:

Stop



QC: Date: SPC (Y/N): Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

140

0.00



Skidtubes

Skidtubes

Memo

0.00

1-Weld step D2576 as per Dwg. D2580 and QSI 004

A/R□□□ Aluminum Rod

M116577

BE 11/03/08

2-Grind welds on step as per Dwg D2580

DP 11-3-9

3-Insert D4202-1 spacer, swage as per QSI002 and trim/ grind flush per QSI002 and dwg. Hold x-bolt with DT9701 Use tube expander 1/2 x17G to start expansion and finish with 1/2 x 18G to achieve dwg dimention.

BE 11-03-10

PH →

4-Drill holes for wearplates using DT 8217 & DT8937 Open holes to 19/64", adjust stopper not to hit web. Deburr

BE/ BB
BE

6-Drill pilot holes for aft cap using DT 8215 Open holes to 0.208". Deburr

11/03/10

7-Drill pilot holes for Tow ring using DT8091, open to .640" and Deburr

150

QC10- Inspect visual per QSI004- ground welds

0.00



QC

Memo

0.00

5 w/03/12

Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D205-634-041 PAR #: _____ Fault Category: Eng-design NCR: Yes No DQA: ✓ Date: 11/03/28
 Resolution: rework Disposition: rework QA: N/C Closed: ✓ Date: 11/03/28

NCR: <u>65594</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
11/03/17	#140	Found at inspection that the cross bolt spacer have cracks in them some large + some small Pkt. Process Swagging	GP 11.03.17 PS/642	→ Drill out + remove cracks & bolt spacer. holes from AFT-6-7-10 Replace w/ 0.849 wall D4202-1 B62308 (3)	3 PS/11/03/17	S 11/03/17	GP 11.03.17 PS/642	S 11/03/17
		R.C. Eng - existing design: x-bolt wall too thick for swagging.						

NOTE: Date & initial all entries

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Item ID: D205-634-041

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Item Name: Replacement Skidtube

Stop



Start Date: 1/21/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 2/11/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start



QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

190

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

= 7m-L 11/03/21



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Start Date: 1/21/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 2/11/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

200

0.00



HandFinish

Hand Finishing

Memo

0.00

1-Install inserts & wearplates & Gaskets as per Dwg. D2580. Use a drop of Sikaflex on insert holes before installing wearplates

A/R ☐ ☐ ☐ Sikaflex-291 ☐ M116040

Sikaflex expire date: 11/08

2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2580

3-Inspect for foreign object per QSI 024

4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step & Aft Cap with Sikaflex. Clean excess adhesive

A/R ☐ ☐ ☐ Sikaflex-291 ☐ M116040

Sikaflex expire date: 11/08

5-Wing Walk as per Dwg D2580 and QSI 005 4.4

Batch: 116402



M-L 11/03/21

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Work Order ID 65594

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Item ID: D205-634-041

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Revision ID:

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Item Name: Replacement Skidtube

Start Date: 1/21/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 2/11/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210 QC Quality Control	QC5- Inspect part completeness to step on W/O Memo Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024	0.00 0.00							
220 Packaging Packaging	Packaging Memo Identify and pack for shipping as per PPPD205-634-041 Location: _____ PPP Rev: <u>PPP 67/12</u>	0.00 0.00							
230 QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.00							

5/1/03/22

FD

11/13/22

11/13/22

mf
11-03-22

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

Picklist Print

Thursday, January 20, 2011 10:22:42 AM

Page 1

Work Order ID: 65594

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube




Start Date: 1/21/2011

Required Date: 2/11/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30
 KJ IPP Rev P 10.02.19
 per PAR09-043 EC verified by:DD
 IPP Rev. O 06.02.28 Added paperwork EC
 IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM IPP Rev:Q
 10.12.01 as per chg003 DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D4202-1  Spacer		Manufactured	No			140	Each	106.0000	20	20			
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				LG				106					
					64608			106					
D2580-1  205 Skidtube bent detail		Manufactured	No			110	Each	2.0000	1	1			
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				LG				1					
					63051			1					
				ST046				1					
					59856			1					
D2576-3  Step (maching detail)		Manufactured	No			140	Each	62.0000	1	1			
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				LG				62					
					46661			14					
					52215			48					

B 66929 BE11/03/10
 (20)

B 65509 BE11/03/04
 x1

BE11/03/08

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 2

Work Order ID: 65594

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 1/21/2011

Required Date: 2/11/2011

Start Qty: 1.00

Required Qty: 1.00

D2855 drab green Manufactured No
Cap



Location

Loc Qty

Loc Code

65519
FP6 3
56613 1
63634 2
ST026 51
50513 1
50770 28
51539 2
53791 20



1
m-l 11/03/21
HX

AN3-5A Purchased No
Bolt



Location

Loc Qty

Loc Code

ST350 1085
115016 ✓ 385
115371 500
116632 200



2
m-l 11/03/21

AN960JD10L NAS1149D0332J Purchased No
Washer



2
m-l 11/03/21
2X

117010

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Shop Packet Print

Page 2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Picklist Print

Thursday, January 20, 2011 10:22:43 AM

Page 3

Work Order ID: 65594

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 1/21/2011

Required Date: 2/11/2011

Start Qty: 1.00

Required Qty: 1.00

ALS7-1032-130

Purchased

No

200

Each

1,628.000

50

50



Insert



m-l 11/03/21

Location

Loc Qty

Loc Code

FP

689

115079

689

ST282

939

113238

17

115502

500

115581

422

50X

AN3C4A

Purchased

No

200

Each

1,230.000

50

50



BOLT



m-l 11/03/21

Location

Loc Qty

Loc Code

ST350

1230

115300

25

115936

8

116075

997

116590

200

50X

AN960C10L

NAS1149C0332
R

Purchased

No

200

Each

25.0000

50

50



washer



m-l 11/03/21

Location

Loc Qty

Loc Code

ST245

25

107534

25

M 116304

50X 11/03/21

162X 11/03/21

Thursday, January 20, 2011 10:22:43 AM

Shop Packet Print

Page 3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Work Order ID: 65594

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 1/21/2011

Required Date: 2/11/2011

Start Qty: 1.00

Required Qty: 1.00

D3564-13

Manufactured No

200

Each

16.0000

1

1



Wearshoe

Location

66805

Loc Qty

Loc Code

FP17

16

59660

1

61828

3

62229

12



m-l 11/03/21

IX

D3564-9

Manufactured No

200

Each

17.0000

1

1



Wearshoe

Location

65524

Loc Qty

Loc Code

FP

1

55334

1

FP019

1

61709

1

FP19

15

62238

15



m-l 11/03/21

IX

D3564-5

Manufactured No

200

Each

22.0000

1

1



Wearshoe

Location

Loc Qty

Loc Code

FG

1

34806

1

FP19

2

57525

1

58709

1

FP-19

19

63575

8

65058

11



m-l 11/03/21

IX

65148

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Work Order ID: 65594

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 1/21/2011

Required Date: 2/11/2011

Start Qty: 1.00

Required Qty: 1.00

D2594-3

Manufactured No

200

Each

739.0000

16

16



O-Ring, 205 Skidtube



m-k 11/03/21

Location

Loc Qty

Loc Code

FP		43
55546		19
58191		12
59358		12
fpa		696
61762	✓	696

D2594-1 drab green

Manufactured No

200

Each

235.0000

16

16



Plug, 205 Skidtube



m-k 11/03/21

Location

Loc Qty

Loc Code

FP		183
42807		112
55002		71
FP14		52
58434		15
62893		37

67088

16x

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W/O:		WORK ORDER CHANGES					
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NOTE: Date & initial all entries

DART**RELEASED**
07-06-28 #**DEO ATTACHED**

65344

DESIGN #	DRAWN BY RH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D2580	REV. D SHEET 1 OF 3
DATE 07.02.27		TITLE 205 SKIDTUBE ASSEMBLY	SCALE NTS
A	96.09.16	NEW ISSUE	
B	96.12.02	AS MANUFACTURED	
C	98.08.26	REDRAWN, INCLUDED DEO 9094/9097	
D	07.02.27	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183	

QTY -041	QTY -045	Part Number	Description
X		D2580-041	SKIDTUBE ASSEMBLY
	X	D2580-045	SKIDTUBE ASSEMBLY
1	1	D2500-1-190	EXTRUSION
1	1	D2576-3	STEP
20	24	D2579	CROSS BOLT SPACER
16	16	D2594-1	PLUG
16	16	D2594-3	O-RING
1	1	D2596	205 WEB
1	1	D2855	AFT CAP
1	1	D3564-5	WEARSHOE
1	1	D3564-9	WEARSHOE
1	1	D3564-11	WEARSHOE
1	1	D3564-13	WEARSHOE
2	2	D3566-1	GASKET
1	1	D3566-5	GASKET
1	1	D3566-13	GASKET
50	50	ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
50	50	AN3C4A	BOLT
2	2	AN3-5A	BOLT
50	50	AN960C10L	WASHER
2	2	AN960JD10L	WASHER

GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/-291.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:
SEE NOTES ON
PAGE 2 FOR D2580-041 AND
PAGE 3 FOR D2580-045
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

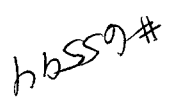
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

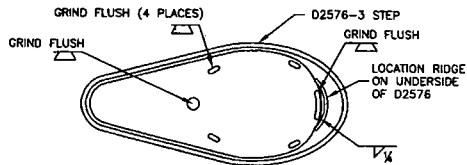
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

SCALE 5:24



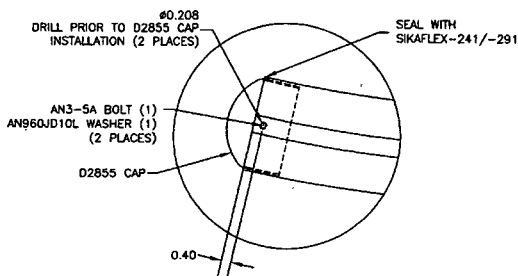
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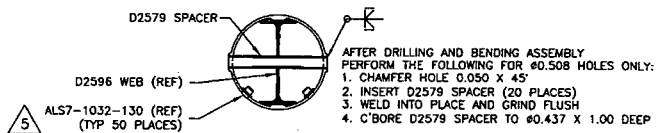
07.06.28

DEO ATTACHED

DETAIL C
SCALE 5:24



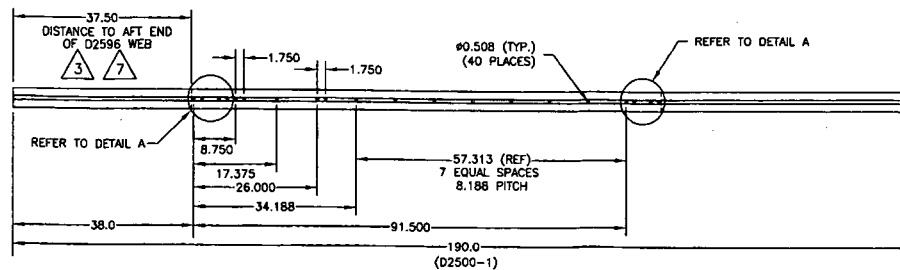
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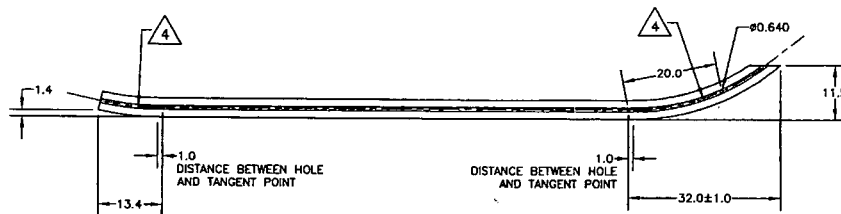
D2580-041 NOTES

- i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB POWDER COAT ASSEMBLY GLOSS WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3 BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

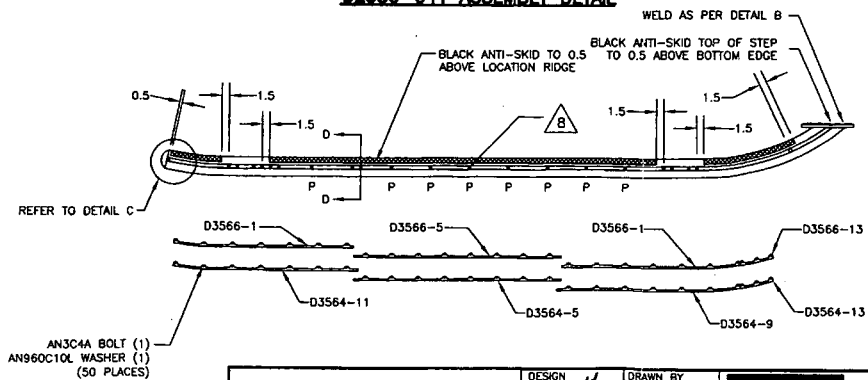
D2580-1 DRILLING DETAIL



D2580--1 BENDING AND CUTTING DETAIL





D2580-041 ASSEMBLY DETAIL



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DESIGN	
CHECKED	
DATE	07.02.27

DRAWN BY	<i>PH</i>
APPROVED	<i>[Signature]</i>

DART		DART AEROSPACE LTD. MARKESBURY, ONTARIO, CANADA	
DRAWING NO.		REV. D	
D2580		SHEET 2 OF 3	
TITLE		SCALE	
205 SKIDTUBE ASSEMBLY		1:24	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

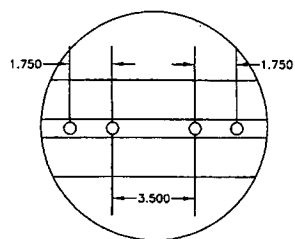
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

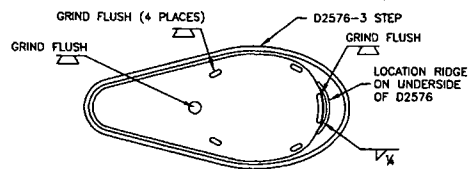
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DETAIL E
SCALE 5:24



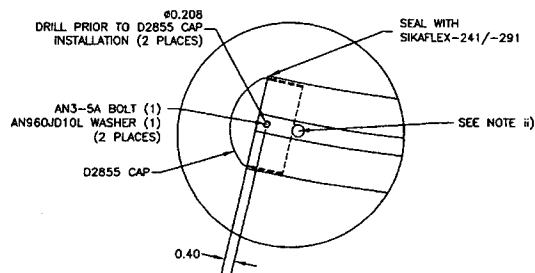
DETAIL F
SCALE 5:24



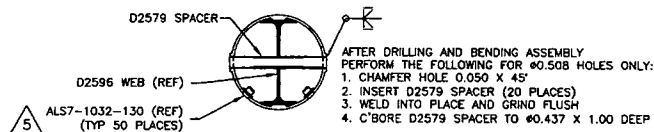
RELEASED
07.06.25

DEO ATTACHED

DETAIL G
SCALE 5:24



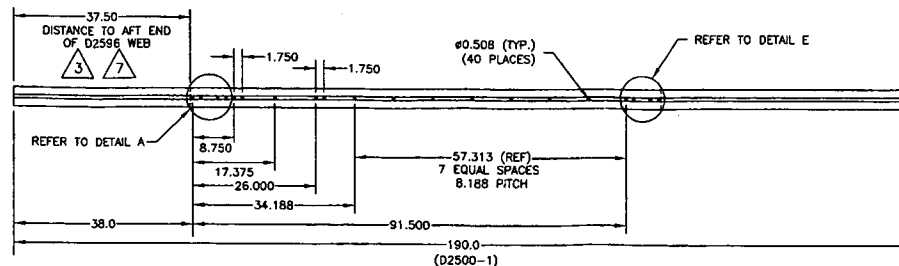
SECTION H-H
SCALE 5:24



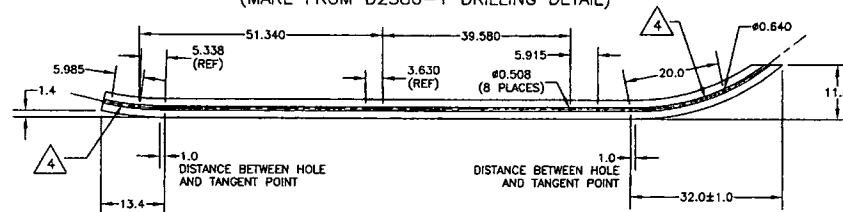
D2580-045 NOTES

- FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB. POWDER COAT ENTIRE ASSEMBLY GREEN (REF. 4.3.5.8) PER DART QSI 005 4.3. BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4.
- IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE WITH THE SPACER AT THIS LOCATION

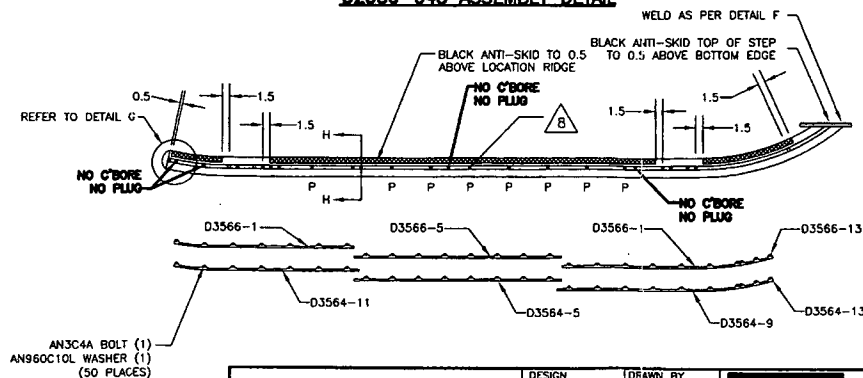
D2580-1 DRILLING DETAIL



D2580-5 BENDING AND CUTTING DETAIL
(MAKE FROM D2580-1 DRILLING DETAIL)



D2580-045 ASSEMBLY DETAIL



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DESIGN RH	DRAWN BY RH	DART	DART AEROSPACE LTD. MARKHAM, ONTARIO, CANADA
CHECKED H	APPROVED H	DRAWING NO. D2580	REV. 0
DATE 07.02.27	TITLE 205 SKIDTUBE ASSEMBLY	SHEET 3 OF 3	SCALE 1:24

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DRAWING NO. D2580	TITLE 205 SKIDTUBE ASSEMBLY	REV. D	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D2580-D-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>UP</i>	CHECKED <i>L</i>	MFG. APPR. <i>R</i>	APPROVED <i>MP</i>		DE APPR. <i>H</i>		
DATE 10.09.22	DATE 10.11.04	DATE 10.11.04	DATE 10/11/04		DATE 10.11.04		

PURPOSE:

CHANGE ALL WELDED CROSSBOLT SPACERS TO SWAGED SPACERS

CHANGE:

PARTS LIST IS AMENDED AS FOLLOWS:

h6550#

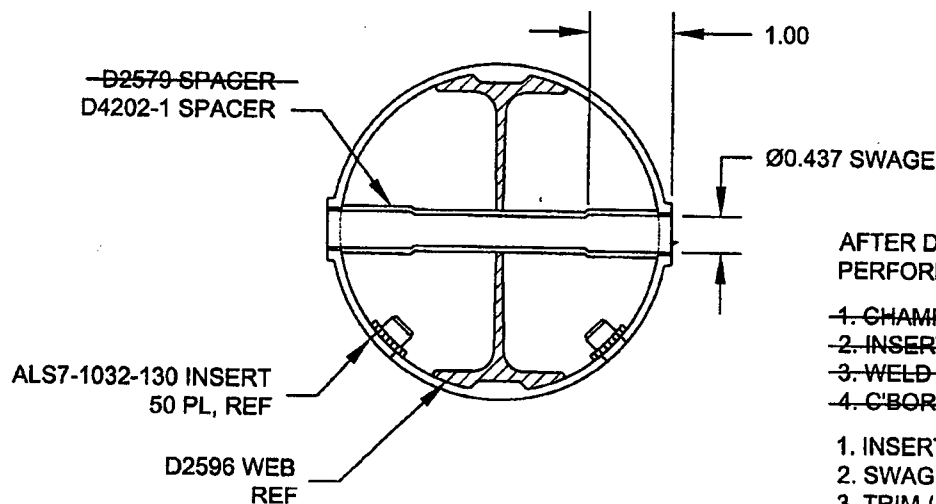
WAS

QTY	QTY	PART NUMBER	DESCRIPTION
-041	-045		
20	24	D2579	CROSS BOLT SPACER

IS

20	24	D4202-1	SPACER
----	----	---------	--------

SECTION D-D & SECTION H-H ARE AMENDED AS FOLLOWS:



SECTION D-D
NOT TO SCALE

SECTION H-H
NOT TO SCALE

RELEASED
2010-11-18
MP

AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:

1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C-BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

1. INSERT D4202-1 SPACER, 20 PL (-041) OR 24 PL (-045)
2. SWAGE TO Ø0.437 X 1.00 DEEP PER QSI 002
3. TRIM / GRIND FLUSH PER QSI 002

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Chris Provencal

From: David Shepherd <dshepherd@dartaero.com>
Sent: March 16, 2011 6:21 PM
To: 'Chris Provencal'
Cc: 'Mike Petsche'; 'Linda Lacelle'; 'Bill Beckett'
Subject: RE: 0.049 Wall Xbolt Spacers

Chris,

The substitution is acceptable. However, I would still like to see that this is repeatable. Per my earlier suggestion, I assume production is building a couple of tubes with 0.049 wall crossbolt spacers to verify that there is no cracking after several swagings???

David

From: Chris Provencal [mailto:cprovencal@dartaero.com]
Sent: Wednesday, March 16, 2011 9:14 AM
To: David Shepherd
Cc: Mike Petsche
Subject: 0.049 Wall Xbolt Spacers

David,

To approve the re-worked xbolt spacers, I'd need to attach an email from you giving OK to substitute the 0.058" wall crossbolt spacers with 0.049" wall crossbolt spacers. The crossbolt spacers are otherwise made to D4202 Rev. A.

The justification would be the initial testing, as recorded in the original design review, which showed that 0.049" wall xbolt spacers were stronger than welded/c-bored crossbolt spacers. These findings were confirmed when we tested another batch of swaged vs welded samples yesterday (March 15th, 2011).

Chris

D255-634-011 SKIDPODES

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
11.03.16	CP 11.03.16 BSJ/ML	RE-WORK CRACKED 0.058" WALL XBOLT SPACERS. REPLACE WITH 0.049" WALL XBOLT SPACERS THAT ARE OTHERWISE MADE TO DRAW REV A				CP 11.03.16 BSJ/ML	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries